



COLOR DENSITOMETER - TT-DENSITO528™

Color Densitometer TT-Densito528™ Suitable for printing and packaging industries, this solution addresses the color quantization problem of CMYK and spot colors, offering clear, data-driven operating guidance to printing press staff.

Color Densitometer

APPLICATIONS

The Torontech TT-Densito528™ is a specialized instrument that brings objective, numerical control to the entire print production workflow. By providing precise, data-driven measurements for color density, dot gain, and overprint, it moves quality control beyond subjective visual assessment. This allows press operators and QC professionals to achieve accurate, repeatable color that meets the most demanding brand standards.

This data-driven approach to color management is essential for quality and efficiency in:

- **Commercial Printing (Offset & Digital):** For ensuring precise color matching from proof to press and maintaining absolute consistency across high-volume print runs, significantly reducing make-ready time, waste, and costly customer rejections.
- **Packaging & Label Production:** To guarantee uncompromising brand color integrity on cartons, labels, and flexible packaging, where color is a critical component of brand identity and a key driver of consumer purchasing decisions.
- **Prepress & Process Control:** As a fundamental tool for calibrating proofing systems and establishing standardized, measurable color targets, ensuring a predictable and repeatable workflow from the initial design to the final printed piece.
- **Ink Formulation & Quality Control:** For ink manufacturers to perform critical quality assurance, verifying that every batch of CMYK and spot color ink meets its exact density and colorimetric specifications before shipment to printers.

FEATURES

Color Densitometer

Horizontal Compression Measurement, Physical Positioning Observation Window

Color Densitometer TT-Densito528™ features a horizontal design with a low center of gravity, ensuring stability while measuring surfaces. The observation window allows continuous monitoring of the measurement position, preventing errors during the process.

Color Densitometer

Provide printing-specific measurement indicators to help users adjust colors efficiently

Measures color density, dot area, overprint rate, printing contrast, hue error, and grayscale.

Color Densitometer

Ultra - High repeatability accuracy: $dE^*ab \leq 0.02$

Repeatability accuracy is the most important indicator of a Color Densitometer's performance. The DS 528 Color Densitometer uses high-precision nanometer spectroscopic devices, achieving a repeatability accuracy of $dE^*ab \leq 0.02$, a level unmatched by similar products.

Color Densitometer

DS 528 supports 3 measurement calibers

Color Densitometer TT-Densito528™ supports 3 apertures, $\Phi 11\text{mm}$, $\Phi 5\text{mm}$, $\Phi 3\text{mm}$, and can be flexibly applied to a variety of samples of different sizes and testing conditions.

Color Densitometer

More than 30 measurement parameters and nearly 40 evaluation light sources

Color Densitometer TT-Densito528™ offers spectral reflectance, CIE-Lab, CIE-LCh, ΔE^*ab , covering power, whiteness, yellowness, and over 30 other measurement indicators. It features nearly 40 evaluation light sources to choose from, including D50, D55, and D65, covering almost all industry needs. All color measurement metrics and light source types are included.

Support Android, iOS, and Mobile App

Color Densitometer TT-Densito528™ can connect to various mobile phones through different mobile apps. Users no longer need to transmit the color values and physical objects of samples, as they can easily share color data through android or iOS. This enables users to search for the closest color match among multiple sets of color cards. Additionally, users can create a personal color database and input color card information for printing, coatings, textiles, and more. This color library can be uploaded to the cloud for multi-device data sharing, making color processing more convenient.

For enterprise users, it's possible to create and manage their own color card information library and color formulas in the cloud. They can share the information library and color formulas with their users through unique invitation codes, enhancing collaboration and efficiency.

Use the Powerful PC-Side Color Management System ColorExpert

Color Densitometer TT-Densito528™ comes with the Windows color management system, ColorExpert, which can be connected via Bluetooth or USB cable. ColorExpert is a comprehensive color management software with four main functional modules: My Color, Color Detection, Color Matching System, and Personal Center.

1. **My Colors:** Users can collect or create new color libraries from hundreds shared by others. The software and mobile app share an account, suitable for the printing and packaging industries. It addresses the color quantization problem of CMYK and spot colors and provides quantitative operating guidance to printing press staff. The color library data follows the account, ensuring information synchronization between PC and mobile terminals.
2. **Color Detection:** Users can calibrate, measure, and set up the spectrophotometer through the software. Colors in the cloud database can be used as standard samples to measure color differences, view spectra, color difference charts, standard sample data, and export data test reports.
3. **Color Matching System:** This module offers a more convenient and efficient color matching process. After measuring the color of the sample, the system calculates the formula in the formula center and automatically corrects the color, achieving an accurate match. This is suitable for automatic color matching applications in paints, coatings, printing, textiles, and other fields.
4. **Personal Center:** Users can edit personal information, search or delete connected instrument information, manage downstream users, and manage color libraries shared with downstream users.

TECHNICAL SPECIFICATIONS

Model	TT-Densito528
Measuring structure※	45/0
Integrated physical positioning holes	Support
Measurement repeatability※	dE*ab≤0.02
Display accuracy	0.01
lighting source	Full-band balanced LED light source
UV light source	Support
Caliber	Φ11mm,Φ5mm,Φ3mm
Measurement Standard	Spectral reflectance, CIE-Lab, CIE-LCh, HunterLab, CIE-Luv, XYZ, Yxy, RGB color difference (ΔE^*ab , ΔE^*cmc , ΔE^*94 , ΔE^*00), whiteness (ASTME313-00, ASTME313 -73, CIE, ISO2470/R457, AATCC, Hunter, TaubeBerger Stensby) yellowness (ASTM D1925, ASTM E313-00, ASTM E313-73) blackness (My, dM), stain fastness, color fastness, Tint (ASTM E313-00) Color density CMYK (A, T, E, M), metamerism index Milm, Munsell, hiding power, strength (dye strength, tinting strength)
Light source conditions	A,B,C,D50,D55,D65,D75F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12CWF,U30,U35,DLF,NBF,TL83,TL84,ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2
Software support	Android, iOS, Windows, WeChat applet, Hongmeng
Accuracy guaranteed	Ensure measurement is qualified
Field of view	2°~ 10°

Integrating sphere diameter	40mm
Follow Standards	CIENo.15,ISO7724-1,ASTME1164,DIN5033Teil7
Spectral method	High-precision nano spectroscopic device
Sensor	Silicon photodiode array dual 16 groups
Wavelength interval	10nm
Wavelength range	400-700nm
Reflectivity measurement range	0-200%
Reflectance resolution	0.01%
Measure Time	About 1 s
Interface	USB, Bluetooth
Screen	Full color screen, 3.5 inches
Battery Capacity	Can continuously measure 8000 times on a single charge, 7.2V/3000mAh
Light source life	5 million times
Language	language and other
Storage	Instrument: 10,000 items; APP: Mass storage

※Diffuse illumination/8° direction reception, including specular reflected light/removing specular reflected light

※※After the whiteboard is calibrated, measure the whiteboard 30 times at 5-second intervals and measure the standard deviation of the results using the MAV caliber.



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